

DROUGHT MONITORING TASK FORCE

Drought Status Report

April 20, 2009

Statewide precipitation for the previous water year (October 1, 2007 through September 30, 2008) was in the normal range (85% of normal). Statewide precipitation for the period from October 1, 2007 through March 15, 2009 was normal (88% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. Statewide precipitation for the current water year (from October 1, 2008 through April 15, 2009) was below normal (78%), with below normal precipitation in the following drought evaluation areas: Middle James (75%), Northern Coastal Plain (73%), Northern Piedmont (69%), Roanoke (80%), Shenandoah (72%), and Upper James (77%). Statewide precipitation from March 1st through April 15th has been above normal (101%), with all areas receiving precipitation above 85% except for the Chowan. The Upper James (83%) is the only drought evaluation region that has been below normal for a period which spans two water years (the period beginning October 1, 2007). Appendix A contains precipitation tables for periods dating from October 1, 2007 provided by the Climatology Office of the University of Virginia and the Virginia Department of Environmental Quality. The monthly climatologic outlook calls for above normal temperatures, and an equal chance of below normal, normal and above normal precipitation for the Commonwealth through the end of April of 2009. The three month outlook calls for equal chances of below normal, normal and above normal temperatures for the Commonwealth through July 2009.

The latest NOAA drought monitor indicates that a majority of the state is now considered to be “abnormally dry”, with the northern portion of the state in a state of “moderate drought”. The drought monitor is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. The Seasonal Drought Outlook for the United States calls for improvement in the northern portion of the state from now through July 2009 (see Appendix D).

While the Virginia Department of Health has not reported any impacts to public water supplies that have compromised their ability to provide the needs of their customers, 24 systems (down from 25 systems in March 2009) are under voluntary water conservation requirements and 3 systems are under mandatory water conservation requirements. Of the 67 systems listed in the VDH report, 14 have been rated as having a “Better” overall water supply situation, and one system reporting a “Worse” situation. Appendix E contains a table of waterworks from this month's report, which includes systems that are under water conservation requirements.

The Virginia Department of Forestry reports a light fire spring fire season with a total of 702 fires with 116 acres burned to date.

The Department of Game and Inland Fisheries reports that recreational fishing and boating are not currently being impacted. With state reservoirs full, having normal reservoir releases has improved recreational opportunities. If rainfall continues, a good spawning season could be produced.

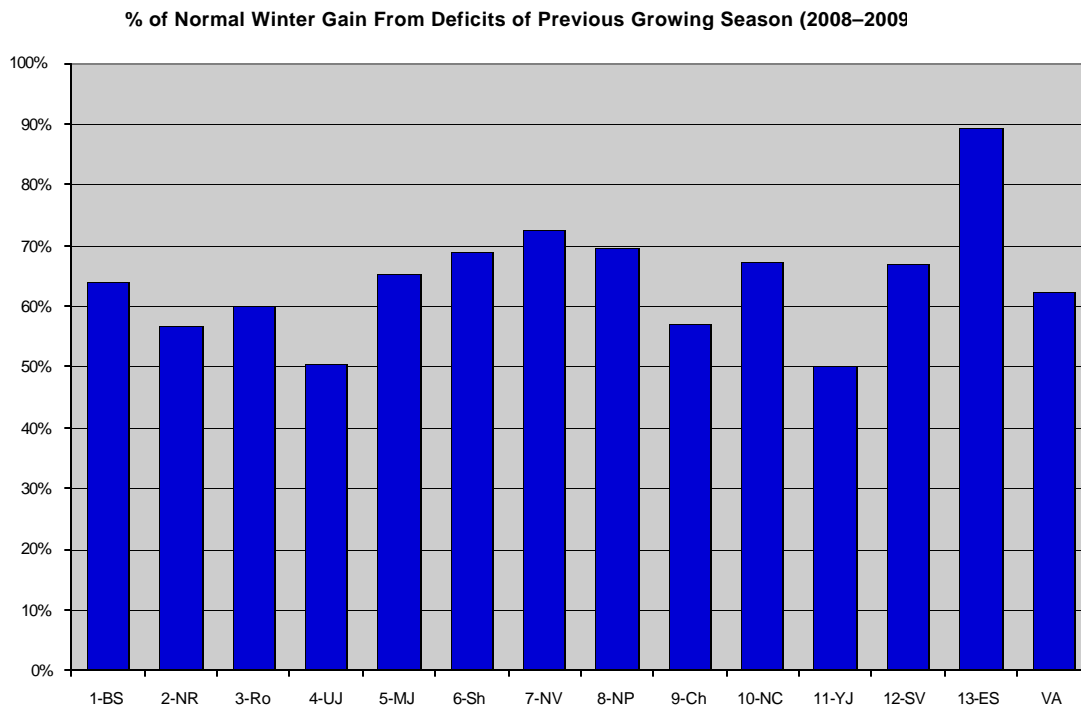
Reports from the Climatology Office of the University of Virginia, the National Weather Service, the Virginia Department of Environmental Quality, the United States Geological Survey, and the Virginia Department of Agriculture and Consumer Services, follow.

Report of the Climatology Office of the University of Virginia

The widespread rains of early April have done relatively little to abate the winter precipitation shortfalls. Over the colder period of the year, all Drought Regions have fallen well short of normal precipitation and few picked up more than 70% of normal.

The accompanying graph shows the relative headway each region has made during the colder season against the rainfall deficits accrued during the previous growing season. This illustrates that no region has regained the normally expected amount of its deficits. No region has, therefore, achieved any surplus. The analysis clearly identifies those regions which are likely to show greater or lesser problems with longer-term moisture. Though all but one suggest a clear potential for difficulties.

For most of Virginia, the growing season has effectively begun and opportunities to make up deficits are rapidly vanishing. Rising temperatures and water uptake by plants will quickly overtake even normal precipitation amounts. Therefore, the probability is very high that current deficits will be carried forward and augmented through the growing season.



Report of the National Weather Service

Since last Tuesday's call, we have had 2 precipitation events on the Commonwealth. The heaviest rainfall from both of these events occurred in northern Virginia, although the remainder of the state received widespread beneficial rainfall from both of these events. These events have eased the short-term moisture concerns across Virginia. However, it appears the next 10 days to 2 weeks will generally be dry with above normal temperatures, as a summer-like pattern takes hold. Thus, the surface soil moisture should dry out significantly during that time. The latest 30 day outlook for May, and the 90 day May through July outlooks show no tendency for either above/below temperatures or precipitation.

United States Geological Survey Streamflow and Ground Water Levels

Periodic rainfall has kept most streams in the normal to just below normal range of flows for the past several weeks except for areas of the Shenandoah and York River Basins where many of the gages are recording discharges below to well below normal. Between precipitation events, discharges at most gages throughout the State are receding at rates greater than normal. The rapid recession of streamflow is an indication that ground-water storage is low. The severe drought conditions in the Meherrin River Basin is probably because of equipment malfunction and drought conditions in the basin should be in the below normal range.

Ground-water levels are varied across the State but less varied in the southeast where levels are generally in the normal range. In the rest of the State levels range from much below normal to normal, often with little distance between wells with the most variability. An example is shown on the ground-water map in the central Piedmont, Blue Ridge, and Valley and Ridge Physiographic Provinces. One explanation is that recent precipitation amounts were not uniform in the area. Most of the wells appear to be at or near their highest level and have begun their spring recession.

Virginia Department of Environmental Quality Condition of Major Reservoirs

Consistent rainfall and relatively cool temperatures have resulted in substantial inflows to the major reservoirs in Virginia. As a result, all major reservoirs in the Commonwealth are now full.

Virginia Department of Agriculture and Consumer Services Status of Agricultural Drought

According to the USDA Crop Weather Report released on April 13, 2009, 90% of topsoil moisture ranged from adequate to surplus. Continued rain showers were welcomed across the state and pastures and hayfields are showing significant improvement with new growth. Cooler temperatures have also taken a toll on local strawberry crops and led many farmers to utilize irrigation and fungicides to protect the crop from frost damage. Corn planting got underway in areas where fields were dry enough, and preparations such as fertilizer application and burn down were taking place in anticipation of planting when the fields dry up. Throughout much of the state, small grains continue to develop on schedule, and wheat fields have benefitted from recent precipitation and Nitrogen applications. Other farm activities include field scouting of small grains, preparing for vegetable planting and transplanting, and spray down or harvesting of ryegrass fields.

Impact on Dairies:

The majority of Virginia's dairymen are still utilizing stored fodder from last year, and production costs remain high compared to milk prices. All areas of the state report adequate moisture at this time and good crops of small grains nearing harvest. General consensus is that there is adequate surface moisture to get through spring planting, but Virginia will need continuing rain this summer to avoid drought conditions later on.

Nursery/Horticulture:

The horticulture industry does not have any drought updates at this time since the spring growing season is just getting underway.

Impact on Crops:

Small grain cover crops are reported to be doing well across the state. Warmer weather and windy conditions have largely eliminated muddy conditions and allowed for the resumption of fieldwork. Though precipitation in the Shenandoah Valley is reported to be seven inches below average thus far for 2009, adequate winter precipitation across the remainder of the state has farmers optimistic about summer crops.

Impact on Creeks, Rivers, and Wells:

Groundwater supplies and farm ponds remain low in northwest Virginia, though creeks and rivers are running well due to recent rain. Elsewhere, water levels are increasing in lakes, streams, and rivers.

Impact on Livestock

Pastures are in poor condition in northwest Virginia due to lower than average precipitation and close grazing over winter. Remaining stocks of stored fodder are of poor quality due to last year's drought. Elsewhere, spring grass growth has greened pastures and farmers are placing cattle on pastures (though often still supplementing feed). Livestock markets are reporting strong cattle numbers, and the majority of cattle are well-fleshed. Trade in culled beef cattle remains strong.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
4/20/09

	DROUGHT REGION	OBSERVED	Apr 1, 2009 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	2.07	1.88	0.19	110%
2	New River	1.65	1.78	-0.12	93%
3	Roanoke	2.12	1.90	0.22	112%
4	Upper James	1.85	1.70	0.15	109%
5	Middle James	1.76	1.67	0.09	105%
6	Shenandoah	1.65	1.46	0.19	113%
7	Northern Virginia	2.15	1.65	0.50	130%
8	Northern Piedmont	1.96	1.65	0.32	119%
9	Chowan	1.39	1.72	-0.32	81%
10	Northern Coastal Plain	1.42	1.55	-0.13	92%
11	York-James	2.65	1.65	1.00	161%
12	Southeast Virginia	1.82	1.63	0.19	112%
13	Eastern Shore	1.64	1.46	0.18	112%
	Statewide	1.83	1.71	0.12	107%

	DROUGHT REGION	OBSERVED	Mar 1, 2009 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	5.97	6.13	-0.16	97%
2	New River	6.03	5.45	0.58	111%
3	Roanoke	6.35	6.17	0.18	103%
4	Upper James	5.36	5.49	-0.13	98%
5	Middle James	5.68	5.73	-0.05	99%
6	Shenandoah	3.53	4.66	-1.13	76%
7	Northern Virginia	4.72	5.31	-0.59	89%
8	Northern Piedmont	5.60	5.46	0.14	103%
9	Chowan	6.88	6.09	0.80	113%
10	Northern Coastal Plain	5.71	5.83	-0.12	98%
11	York-James	7.62	6.34	1.28	120%
12	Southeast Virginia	7.64	5.83	1.81	131%
13	Eastern Shore	6.29	5.77	0.52	109%
	Statewide	5.80	5.75	0.05	101%

DROUGHT		Feb 1, 2009		- Apr 15, 2009	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	7.67	9.71	-2.04	79%	
2 New River	7.16	8.38	-1.22	85%	
3 Roanoke	7.25	9.48	-2.23	76%	
4 Upper James	6.22	8.34	-2.12	75%	
5 Middle James	6.31	8.85	-2.54	71%	
6 Shenandoah	4.33	7.07	-2.74	61%	
7 Northern Virginia	5.16	7.98	-2.82	65%	
8 Northern Piedmont	6.07	8.43	-2.36	72%	
9 Chowan	7.74	9.26	-1.52	84%	
10 Northern Coastal Plain	6.00	8.97	-2.97	67%	
11 York-James	8.67	9.87	-1.20	88%	
12 Southeast Virginia	8.63	9.33	-0.70	93%	
13 Eastern Shore	6.63	8.96	-2.33	74%	
Statewide	6.64	8.88	-2.24	75%	

DROUGHT		Jan 1, 2009		- Apr 15, 2009	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	12.62	13.44	-0.82	94%	
2 New River	10.68	11.59	-0.91	92%	
3 Roanoke	10.51	13.40	-2.89	78%	
4 Upper James	9.00	11.62	-2.62	77%	
5 Middle James	8.52	12.51	-3.99	68%	
6 Shenandoah	6.43	9.92	-3.49	65%	
7 Northern Virginia	7.53	11.26	-3.73	67%	
8 Northern Piedmont	8.23	11.95	-3.72	69%	
9 Chowan	9.84	13.37	-3.53	74%	
10 Northern Coastal Plain	8.38	12.72	-4.34	66%	
11 York-James	10.37	14.01	-3.64	74%	
12 Southeast Virginia	10.25	13.49	-3.23	76%	
13 Eastern Shore	8.46	12.52	-4.06	68%	
Statewide	9.40	12.52	-3.12	75%	

DROUGHT		Dec 1, 2008		- Apr 15, 2009	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	17.44	17.08	0.36	102%	
2 New River	14.03	14.30	-0.27	98%	
3 Roanoke	14.24	16.65	-2.41	86%	
4 Upper James	12.45	14.57	-2.12	85%	
5 Middle James	12.46	15.68	-3.22	79%	
6 Shenandoah	10.06	12.51	-2.45	80%	
7 Northern Virginia	10.53	14.36	-3.83	73%	
8 Northern Piedmont	11.80	15.23	-3.43	77%	
9 Chowan	13.71	16.39	-2.68	84%	
10 Northern Coastal Plain	11.34	16.00	-4.66	71%	
11 York-James	14.47	17.40	-2.93	83%	
12 Southeast Virginia	14.08	16.67	-2.58	85%	
13 Eastern Shore	13.61	15.76	-2.15	86%	
Statewide	13.17	15.64	-2.47	84%	

DROUGHT		Nov 1, 2008		- Apr 15, 2009	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	19.99	20.36	-0.37	98%	
2 New River	15.70	17.33	-1.63	91%	
3 Roanoke	17.23	20.01	-2.78	86%	
4 Upper James	14.87	17.93	-3.06	83%	
5 Middle James	15.57	19.19	-3.62	81%	
6 Shenandoah	11.95	15.56	-3.61	77%	
7 Northern Virginia	12.61	17.77	-5.16	71%	
8 Northern Piedmont	14.16	19.03	-4.87	74%	
9 Chowan	16.95	19.50	-2.55	87%	
10 Northern Coastal Plain	14.94	19.14	-4.20	78%	
11 York-James	18.83	20.77	-1.94	91%	
12 Southeast Virginia	19.05	19.74	-0.68	97%	
13 Eastern Shore	18.33	18.70	-0.37	98%	
Statewide	15.98	18.87	-2.89	85%	

DROUGHT REGION		OBSERVED	Oct 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	21.77	23.24	-1.47	94%
2	New River	16.89	20.50	-3.60	82%
3	Roanoke	19.01	23.72	-4.71	80%
4	Upper James	16.27	21.18	-4.91	77%
5	Middle James	17.16	23.03	-5.87	75%
6	Shenandoah	13.58	18.75	-5.17	72%
7	Northern Virginia	14.08	21.25	-7.17	66%
8	Northern Piedmont	15.80	23.02	-7.21	69%
9	Chowan	18.39	23.08	-4.68	80%
10	Northern Coastal Plain	16.48	22.65	-6.17	73%
11	York-James	20.53	24.30	-3.78	84%
12	Southeast Virginia	20.54	23.40	-2.85	88%
13	Eastern Shore	19.44	21.91	-2.47	89%
	Statewide	17.55	22.37	-4.82	78%

DROUGHT REGION		OBSERVED	Sep 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	23.84	26.70	-2.86	89%
2	New River	19.43	23.91	-4.47	81%
3	Roanoke	23.35	27.95	-4.60	84%
4	Upper James	18.41	24.68	-6.27	75%
5	Middle James	22.37	27.16	-4.79	82%
6	Shenandoah	17.32	22.42	-5.10	77%
7	Northern Virginia	19.84	25.32	-5.48	78%
8	Northern Piedmont	21.12	27.30	-6.18	77%
9	Chowan	25.01	27.51	-2.50	91%
10	Northern Coastal Plain	21.53	26.74	-5.20	81%
11	York-James	26.45	29.20	-2.76	91%
12	Southeast Virginia	28.28	27.83	0.46	102%
13	Eastern Shore	23.55	25.52	-1.97	92%
	Statewide	21.97	26.37	-4.40	83%

DROUGHT REGION		OBSERVED	Aug 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	27.92	30.53	-2.61	91%
2	New River	23.90	27.22	-3.31	88%
3	Roanoke	27.99	31.67	-3.68	88%
4	Upper James	22.50	28.01	-5.51	80%
5	Middle James	27.16	30.98	-3.82	88%
6	Shenandoah	20.84	25.75	-4.91	81%
7	Northern Virginia	21.89	29.17	-7.28	75%
8	Northern Piedmont	24.21	31.12	-6.90	78%
9	Chowan	28.03	31.82	-3.79	88%
10	Northern Coastal Plain	23.84	30.60	-6.75	78%
11	York-James	29.09	34.07	-4.99	85%
12	Southeast Virginia	30.51	32.95	-2.43	93%
13	Eastern Shore	26.47	29.39	-2.92	90%
	Statewide	25.72	30.20	-4.48	85%

DROUGHT REGION		OBSERVED	Jul 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	32.64	35.01	-2.37	93%
2	New River	27.83	31.01	-3.17	90%
3	Roanoke	31.42	36.06	-4.64	87%
4	Upper James	26.60	32.05	-5.45	83%
5	Middle James	31.00	35.39	-4.39	88%
6	Shenandoah	25.15	29.51	-4.36	85%
7	Northern Virginia	24.85	32.94	-8.09	75%
8	Northern Piedmont	28.06	35.52	-7.46	79%
9	Chowan	31.45	36.33	-4.87	87%
10	Northern Coastal Plain	27.36	35.05	-7.69	78%
11	York-James	32.80	39.17	-6.37	84%
12	Southeast Virginia	36.20	38.02	-1.82	95%
13	Eastern Shore	30.37	33.39	-3.02	91%
	Statewide	29.62	34.54	-4.92	86%

DROUGHT REGION		OBSERVED	Jun 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	36.18	39.15	-2.97	92%
2	New River	30.31	34.86	-4.55	87%
3	Roanoke	34.33	39.95	-5.62	86%
4	Upper James	29.19	35.76	-6.57	82%
5	Middle James	33.11	38.90	-5.79	85%
6	Shenandoah	29.04	33.22	-4.18	87%
7	Northern Virginia	29.49	36.80	-7.31	80%
8	Northern Piedmont	33.31	39.53	-6.21	84%
9	Chowan	33.17	39.98	-6.80	83%
10	Northern Coastal Plain	31.79	38.61	-6.81	82%
11	York-James	34.93	42.58	-7.65	82%
12	Southeast Virginia	38.10	41.63	-3.52	92%
13	Eastern Shore	34.93	36.37	-1.44	96%
	Statewide	32.72	38.33	-5.61	85%

DROUGHT REGION		OBSERVED	May 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	38.76	43.97	-5.21	88%
2	New River	32.88	39.07	-6.18	84%
3	Roanoke	38.17	44.28	-6.11	86%
4	Upper James	32.56	40.04	-7.48	81%
5	Middle James	37.34	43.14	-5.80	87%
6	Shenandoah	33.57	37.06	-3.49	91%
7	Northern Virginia	37.94	41.14	-3.20	92%
8	Northern Piedmont	39.50	43.75	-4.24	90%
9	Chowan	36.57	44.07	-7.49	83%
10	Northern Coastal Plain	38.04	42.77	-4.72	89%
11	York-James	37.70	46.85	-9.15	80%
12	Southeast Virginia	41.88	45.49	-3.60	92%
13	Eastern Shore	40.23	39.89	0.34	101%
	Statewide	36.93	42.59	-5.66	87%

DROUGHT REGION		OBSERVED	Apr 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	43.08	47.73	-4.65	90%
2	New River	37.67	42.62	-4.94	88%
3	Roanoke	43.57	48.08	-4.51	91%
4	Upper James	37.39	43.44	-6.05	86%
5	Middle James	43.53	46.48	-2.95	94%
6	Shenandoah	38.97	39.98	-1.01	97%
7	Northern Virginia	43.61	44.44	-0.83	98%
8	Northern Piedmont	45.52	47.04	-1.51	97%
9	Chowan	43.78	47.50	-3.72	92%
10	Northern Coastal Plain	44.00	45.86	-1.85	96%
11	York-James	44.01	50.15	-6.15	88%
12	Southeast Virginia	48.56	48.74	-0.17	100%
13	Eastern Shore	44.66	42.81	1.85	104%
	Statewide	42.56	46.01	-3.45	92%

DROUGHT REGION		OBSERVED	Mar 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	47.45	51.98	-4.53	91%
2	New River	40.31	46.29	-5.98	87%
3	Roanoke	46.77	52.35	-5.58	89%
4	Upper James	40.21	47.23	-7.02	85%
5	Middle James	46.83	50.54	-3.71	93%
6	Shenandoah	41.77	43.18	-1.41	97%
7	Northern Virginia	46.04	48.10	-2.06	96%
8	Northern Piedmont	48.62	50.85	-2.22	96%
9	Chowan	47.69	51.87	-4.17	92%
10	Northern Coastal Plain	46.48	50.14	-3.65	93%
11	York-James	47.84	54.84	-7.00	87%
12	Southeast Virginia	51.49	52.94	-1.44	97%
13	Eastern Shore	46.44	47.12	-0.68	99%
	Statewide	45.74	50.05	-4.31	91%

DROUGHT REGION		OBSERVED	Feb 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	50.65	55.56	-4.91	91%
2	New River	42.32	49.22	-6.89	86%
3	Roanoke	49.06	55.66	-6.60	88%
4	Upper James	42.42	50.08	-7.66	85%
5	Middle James	49.47	53.66	-4.19	92%
6	Shenandoah	44.07	45.59	-1.52	97%
7	Northern Virginia	48.83	50.77	-1.94	96%
8	Northern Piedmont	51.26	53.82	-2.55	95%
9	Chowan	50.54	55.04	-4.50	92%
10	Northern Coastal Plain	49.05	53.28	-4.23	92%
11	York-James	51.15	58.37	-7.22	88%
12	Southeast Virginia	55.62	56.44	-0.82	99%
13	Eastern Shore	49.74	50.31	-0.57	99%
	Statewide	48.37	53.18	-4.81	91%

DROUGHT REGION		OBSERVED	Jan 1, 2008 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	53.63	59.29	-5.66	90%
2	New River	43.60	52.43	-8.83	83%
3	Roanoke	49.95	59.58	-9.63	84%
4	Upper James	44.06	53.36	-9.30	83%
5	Middle James	50.53	57.32	-6.79	88%
6	Shenandoah	45.08	48.44	-3.36	93%
7	Northern Virginia	50.04	54.05	-4.01	93%
8	Northern Piedmont	52.33	57.34	-5.01	91%
9	Chowan	51.61	59.15	-7.54	87%
10	Northern Coastal Plain	50.21	57.03	-6.82	88%
11	York-James	53.85	62.51	-8.66	86%
12	Southeast Virginia	57.03	60.60	-3.57	94%
13	Eastern Shore	51.68	53.87	-2.19	96%
	Statewide	49.74	56.82	-7.08	88%

DROUGHT REGION		OBSERVED	Dec 1, 2007 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	56.92	62.93	-6.01	90%
2	New River	46.20	55.14	-8.94	84%
3	Roanoke	53.25	62.83	-9.58	85%
4	Upper James	47.36	56.31	-8.95	84%
5	Middle James	53.73	60.49	-6.76	89%
6	Shenandoah	48.11	51.03	-2.92	94%
7	Northern Virginia	53.02	57.15	-4.13	93%
8	Northern Piedmont	55.68	60.62	-4.93	92%
9	Chowan	55.86	62.17	-6.30	90%
10	Northern Coastal Plain	53.32	60.31	-6.98	88%
11	York-James	57.96	65.90	-7.94	88%
12	Southeast Virginia	60.87	63.78	-2.90	95%
13	Eastern Shore	56.37	57.11	-0.74	99%
	Statewide	53.07	59.94	-6.87	89%

DROUGHT REGION		OBSERVED	Nov 1, 2007 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	59.10	66.21	-7.11	89%
2	New River	46.76	58.17	-11.40	80%
3	Roanoke	53.81	66.19	-12.38	81%
4	Upper James	48.38	59.67	-11.29	81%
5	Middle James	54.40	64.00	-9.60	85%
6	Shenandoah	49.48	54.08	-4.60	92%
7	Northern Virginia	54.52	60.56	-6.04	90%
8	Northern Piedmont	56.89	64.42	-7.52	88%
9	Chowan	56.49	65.28	-8.78	87%
10	Northern Coastal Plain	54.60	63.45	-8.85	86%
11	York-James	58.76	69.27	-10.51	85%
12	Southeast Virginia	61.44	66.85	-5.41	92%
13	Eastern Shore	57.39	60.05	-2.66	96%
	Statewide	54.08	63.17	-9.09	86%

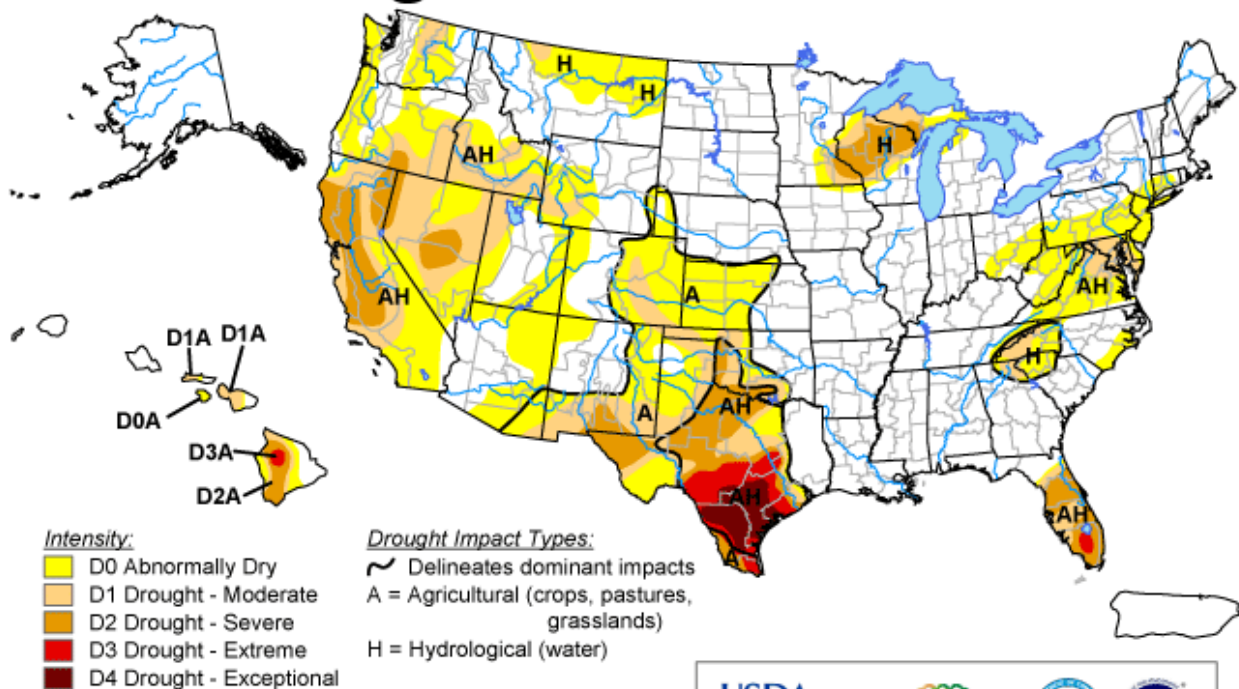
DROUGHT REGION		OBSERVED	Oct 1, 2007 NORMAL	- Apr 15, 2009 DEPARTURE	% OF NORM.
1	Big Sandy	61.78	69.09	-7.31	89%
2	New River	52.88	61.34	-8.46	86%
3	Roanoke	59.55	69.90	-10.35	85%
4	Upper James	52.42	62.92	-10.50	83%
5	Middle James	59.39	67.84	-8.45	88%
6	Shenandoah	52.91	57.27	-4.36	92%
7	Northern Virginia	58.75	64.04	-5.29	92%
8	Northern Piedmont	61.38	68.41	-7.03	90%
9	Chowan	61.33	68.86	-7.52	89%
10	Northern Coastal Plain	59.52	66.96	-7.44	89%
11	York-James	63.29	72.80	-9.51	87%
12	Southeast Virginia	66.60	70.51	-3.90	94%
13	Eastern Shore	61.07	63.26	-2.19	97%
	Statewide	58.70	66.67	-7.97	88%

APPENDIX B

U.S. Drought Monitor

April 14, 2009

Valid 8 a.m. EDT



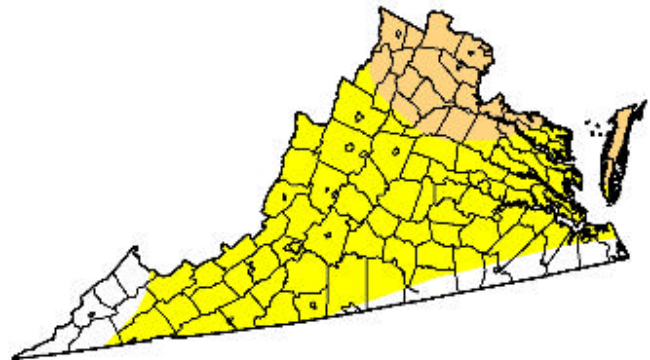
Released Thursday, April 16, 2009
Author: Richard Heim, NOAA/NESDIS/NCDC

APPENDIX C

U.S. Drought Monitor Virginia

April 14, 2009
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	12.7	87.4	16.7	0.0	0.0	0.0
Last Week (04/07/2009 map)	12.7	87.4	16.7	0.0	0.0	0.0
3 Months Ago (01/20/2009 map)	63.1	36.9	16.3	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	63.0	37.0	24.7	0.0	0.0	0.0
Start of Water Year (10/07/2008 map)	57.8	42.2	25.1	1.6	0.0	0.0
One Year Ago (04/15/2008 map)	8.7	91.3	70.2	24.1	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

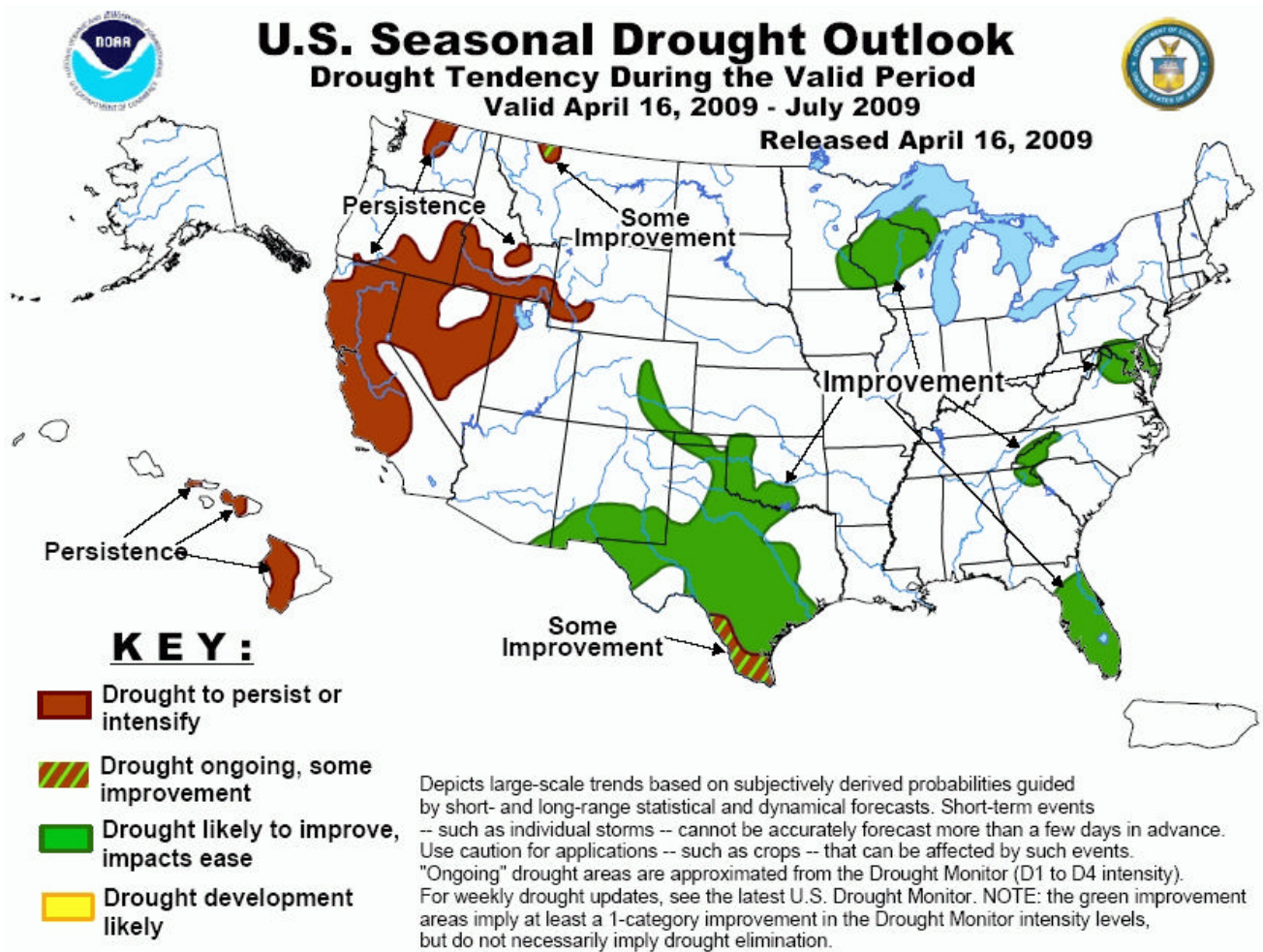
The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, April 16, 2009
Author: Richard Heim, NOAA/NESDIS/NCDC

APPENDIX D



APPENDIX E

Condition of Public Water Supplies

March 13, 2009

ODW Drought Situation
Report

Date
: **4/13/09**

	Restriction totals
Mandatory	3
Voluntary	24
Total	27

N-None
M-Mandatory
V-Voluntary

B-Better
S-Stable/Same
W-Worse

PW SID	Waterworks	Source Name	Restrictions	Situation	Population Served
2023 720	Town of Troutville	Five Drilled Wells	N	S - Town reported the pumping rate of their No. 3 well dropped from 123 gpm to 40 gpm. The pumping rates of the other four wells are the same.	500
2065 250	Fluvanna Correctional Center for Women	Mechunk Creek and on-site Raw Water Reservoir	V	B - Reservoir is full. Water restrictions will continue however to conserve water.	1,650

2660 345	City of Harrisonburg	North River, Dry River/Switzer Reservoir (Rawley Springs)	V	S - Voluntary conservation has been requested. This has not been implemented as a result of limited low source water quantity, but rather at the request of the Governor's letter requesting conservation.	44,500
3053 280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	V	S - 04/06/09 - Voluntary restrictions began on 7/29/08.	6,800
3081 550	GCWSA - Jarratt	Nottoway River	N	S - 04/06/09 - Waterworks production rate reduced due to lower demand; river level sufficient to allow plant operation at 2.0 mgd.	7,190
3093 120	Isle of Wight County	Suffolk	V	B - 04/06/09 - Obtains water from Suffolk. Follows Suffolk's lead on conservation.	1,284
3550 050	Chesapeake - Western Branch system	City of Portsmouth	V	S -04/06/09 This portion of the city is consecutive to (receives water from) the city of Portsmouth. City Council voted to go to voluntary conservation city-wide - it took effect on 24	36,444

				Oct 2007. Still following Portsmouth's lead on conservation.	
3550 051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	V	B - 04/06/09 City Council voted to go to voluntary conservation city-wide - took effect on 24 Oct 2007. Continuing to follow Portsmouth's lead. Chlorides are used as an indicator of drought, the higher the levels the more concentrated the contaminant in a lesser amount of surface water. The chlorides average 55 mg/l for March 2009. Average rainfall levels for March 2009 3.62 inches.	102,095
3550 052	Chesapeake - South Norfolk system	City of Norfolk	V	S -04/06/09-This portion of the city is consecutive to (receives water from) the city of Norfolk. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still	38,611

				following Norfolk's lead on conservation.	
3570 150	Colonial Heights	ARWA	V	S - 04/06/09 - Lifted mandatory restrictions on 12/1/07. Voluntary restrictions currently in place.	17,286
3595 250	Emporia	Meherrin River	N	S - 04/06/09 - Water flowing over dam, reservoir level sufficient for normal operation.	5,600
3670 800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 04/06/2009 - Level at intakes still sufficient to supply plant. Year-to-date rainfall down about 2.5" and turbidity has increased.	25000 - Primary / 42463 Total including Consecutive System (Ft. Lee)
3700 500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	B -- 04/09/09 - Total reservoir capacity at 98.3%. Up from last report.	406,000
3710 100	Norfolk	Lake Prince, Lake Burnt Mills, Western Branch reservoir, Nottoway River, Blackwater River, 4 western wells; Little Creek reservoir, Lakes	V	B - As of 04/06/09, reservoirs at 98.5% (up from 91.2% on 03/10). Historic reservoir capacity is 95.5% at this time of year. Current Avg. pumping from Lake Gaston =	261,250 - Primary / 755,617 - Total including consecutive systems (Va Beach +

		Smith, Lawson, Whitehurst, and Wright. Lake Gaston.		7.5 MGD. Called for voluntary conservation 11/1/07.	military bases).
3740 600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	B - As of 04/10/09, reservoirs at 100% (also at 100% on 03/06). Median reservoir capacity is 100% for the month and historical average capacity is 99% (period of 1969-2008). The emergency wells are off. Called for voluntary conservation on 10/10/07.	100,400 - Primary / 120,400 Total including consecutive systems (military bases)
3800 805	Suffolk	Lone Star Lakes, Cumps Mill Pond	V	B -04/06/09-Will follow Portsmouth's lead and the region as far as conservation. Average reservoir levels: Southern Lakes at 68% capacity, for the Northern Lakes at 94% and Crumps Mill Pond at 100.1% The Southern Lakes are for emergency use only. Overall they are at 86.1% capacity for the reservoirs for the period (January 2009-March 2009).	62,562

				Operator states that for the same time period last year (January - March 2008) the overall capacities for the reservoirs was 75.3 %. Still purchasing water from Portsmouth per their contract, no drought measure taken to date.	
3810 900	Virginia Beach	Norfolk	V	B - 04/06/09 - Obtains water from Norfolk. Called for voluntary conservation on 9/19/07.	423,743
3830 850	Williamsburg	Waller Mill Reservoir	N	B - 04/13/09 - Estimated at 99% usable capacity. Currently at 1.5 inches below spillway.	16,400
4041 035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	N	S - Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Reservoir is at full level.	200,000
4041 845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	S - Purchases water from the City of Richmond and the Appomattox River Water Authority.	286,000

				Reservoir is at full level.	
4057 800	TAPPAHANNOCK, TOWN OF	Groundwater wells	N	S	2,100
4073 311	GLOUCESTER CO WATER TREATMENT PLT	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	S -Reservoir is full.	8,870
4075 283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	N	S -purchases water from Henrico County	2,500
4075 735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	V	S - Conservation at all DOC facilities	9,300
4085 398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	V	S (see Richmond)	71,000
4085 770	SPRING MEADOWS-MEADOW GATE	Groundwater wells	N	S - A replacement well has been drilled and other improvements are proposed in the PER.	2,300
4087 125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	V	S (see Richmond)	289,000
4101 900	WEST POINT, TOWN OF	Groundwater wells	N	S	3,000
4127 110	DELMARVA PROPERTIES	Groundwater wells	V	S -New Kent Co. encourages	7,700

				conservation at all county owned waterworks.	
4145 675	POWHATAN COURTHOUSE	Groundwater wells	N	S	2,600
4193 280	COLONIAL BEACH, TOWN OF	Groundwater wells	N	S	3,300
4760 100	RICHMOND, CITY OF	Surface water; James River	V	S- water levels do not affect intake; James River Regional Flow Management Plan set restrictions based on James River level for counties of Henrico, Chesterfield, Goochland, and Hanover counties, which purchase water from the City.	197,000
5515 050	City of Bedford	Stoney Creek Reservoir and Wells 1 to 5	N	S - good levels	6,946
5143 210	Town of Gretna	Georges Creek Res	N	S	2,500
5029 085	Buckingham County	Troublesome Creek Reservoir	N	S	5,751
5037 300	Town of Keysville	Keysville Reservoir	N	S	800
5083 550	Town of Halifax	Bannister River Reservoir	N	S	1,389
5780 600	Town of South Boston	Dan River	N	S	9,726

5141 640	Town of Stuart	South Mayo River	N	S	1,500
5147 170	Town of Farmville	Appomattox River	N	S	7,011
5011 050	Town of Appomattox	Wells	V	B - Operation reports show water levels rising in the wells.	1,708
5135 160	Town of Crewe	Crystal Lake	N	S - good levels	3,500
5111 450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	S - good levels	1,400
5067 785	Ridgescreech	Wells	N	S	52
5067 265	Hales Point	Wells	N	S - hauling water	46
5067 348	Westlake Water Co	Wells	V	S - hauling water	620
5067 937	Stripers Landing	Wells	N	S	125
5690 400	City of Martinsville	Beaver Creek Reservoir	N	S	16,000
6033 425	Lake Caroline WTP	Lake Caroline	N	S - Lake is full, but plant is OOS as of 4/5/09.	3,370
6047 500	Town of Culpeper	Lake Pelham	N	S - On Friday, April 10, 2009, Lake Pelham was full.	14,200
6061 200	Marshall	Groundwater	M	S - The WSA Alert Messaging Service maintains the Water Use Restriction Notice	2,134

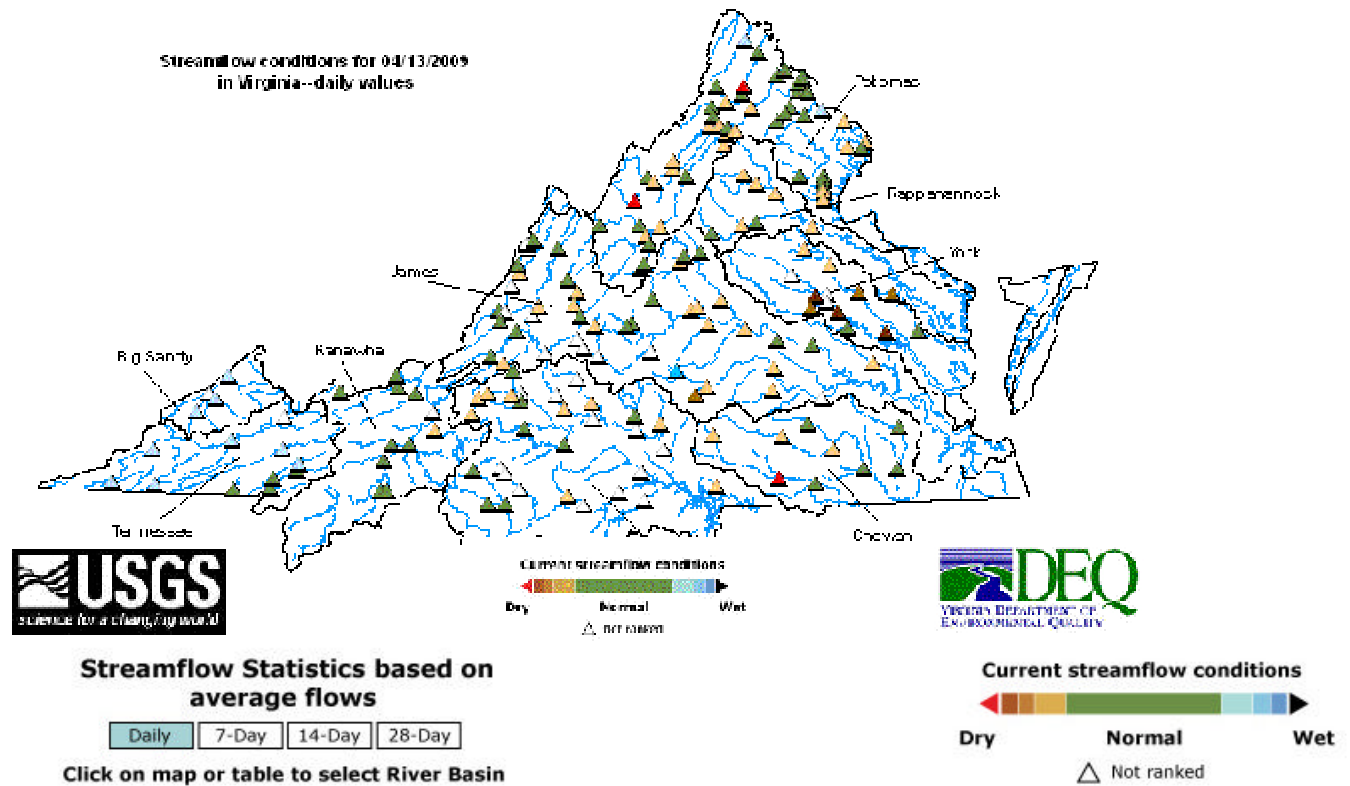
				as of 4/10/2009.	
6061 600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	S - On Friday, 4/10/09, Warrenton Reservoir is at a surface elevation of 445.3 ft and is full with very slight overflow.	11,160
6107 150	Town of Hamilton	Groundwater	M	S - 4/10/09 No water supply problems. Town Council voted to maintain Mandatory water use restrictions until new Well 14 is placed in service.	2,000
6107 200	Town of Hillsboro	Spring/Well	V	W - 4/10/09 Combined yield from new well and spring has not been consistently adequate to meet current demand. A leak survey revealed 10 potential leaks in the distribution system. Last ran out of water in March.	58
6107 601	LCSA Raspberry Falls Subdivision	Groundwater	V	S - 4/10/09 Both wells in service. No problems with water supply - quantity. Voluntary conservation in place beginning 3/11/08 due to concerns about	394

				possible GUDI sources.	
6107 400	Town of Lovettsville	Groundwater	V	S -4/10/09 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,280
6107 600	Town of Purcellville	Hirst Reservoir and groundwater	N	B - 4/10/09 Both lakes are full. No water supply problems. Water conservation restrictions lifted.	6,300
6107 650	Town of Round Hill	Groundwater	V	B - 4/10/09 - No water supply problems. Groundwater levels have improved. Voluntary water use restrictions replace mandatory water use restrictions on 4/1/08.	3,156
6113 200	Town of Madison	White Oak Run	N	S -- Stream flow remains adequate to meet normal demands.	778
6137 300	Rapidan Service Authority - Rt. 15	Purchase treated surface water from Town of Orange (Rapidan River)	N	S - Town of Orange raw water availability is well above minimum.	273
6137 400	Town of Gordonsville	Purchase treated surface water from RSA and Town of Orange	N	S--No water use restrictions are in place.	1,800

6137 500	Town of Orange	Rapidan River	V	S - 4/10/09 - Fourteen day running average of Rapidan River flow is 863 cfs (withdrawal restrictions are imposed below 44 cfs). Offstream raw water reservoir is full.	4,500
6137 999	Rapidan Service Authority - Wilderness and Lake of the Woods	Rapidan River	N	Rapidan River flow has been at an adequate level.	11,331
6153 260	Woodbridge Mobile Home Park	Groundwater	M	S -- 4/10/09 Low water pressure problem continues. Waterworks continues to have low pressure due to inadequate sources and leaks in the distribution system. This problem is indirectly related to drought as source problems existed previously. A new well was completed in November 2008. Developmental Testing completed in December 2008, all water quality results	320

				reviewed by VDH ODW. Owner's engineer met with VDH ODW on 4/8/09 to kick off design effort.	
6177 280 and 6177 300	Spotsylvania County	Rappahanock River, Motts Reservoir, Hunting Run Reservoir, Ni Reservoir	N	B - River flow averaging 1900cfs over past week. S - Motts reservoir down 2.6 ft. S - Ni Reservoir is full.	79,315
6179 100 and 6179 775	Stafford County	Smith Lake and Abel Lake	N	S - Smith and Abel Lakes are full. In June 2008, water supply emergency from 2007 was rescinded with county wide conservation requested.	93,669

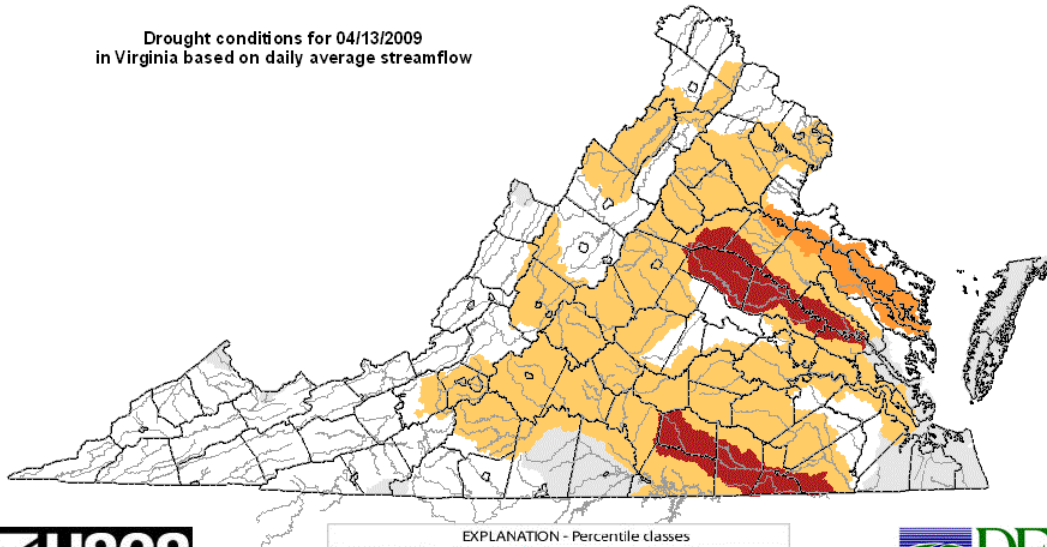
APPENDIX F



APPENDIX G

Drought Watch -- USGS State Information on Drought Map of below normal 7-day average streamflow

Drought conditions for 04/13/2009
in Virginia based on daily average streamflow



EXPLANATION - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data
Extreme drought	Severe drought	Moderate drought	Below normal	



Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H

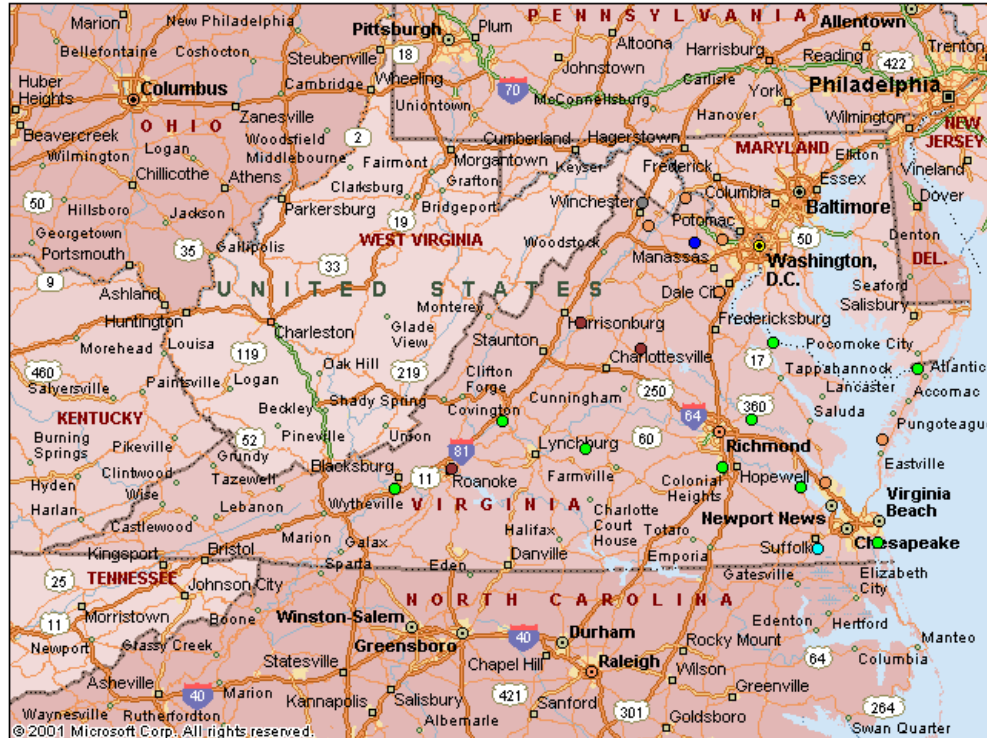
Virginia Climate Response Network

March 17, 2009

Virginia Climate Response Network

Hover mouse over site for information.

Click site symbol to open page with well information.



Explanation - Percentile classes (symbol color based on most recent measurement)

●	●	●	●	●	●	●	●
New	<10	10-24	25-75	76-90	>90	New	Not
Low	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal	High	Ranked

Map generated 4/13/2009 8:54:50 AM